
UNIFORM SEARCH SYSTEM AND METHOD FOR SELECTIVELY SHARING DISTRIBUTED ACCESS-CONTROLLED DOCUMENTS

ABSTRACT OF THE INVENTION

10 A privacy-preserving index system addresses the problem of providing a
privacy-preserving search over distributed access-controlled content. Indexed
documents can be readily reconstructed from inverted indexes used in the
search. The privacy-preserving index system builds a centralized privacy-
preserving index in conjunction with a distributed access-control enforcing
15 search protocol. The privacy-preserving index utilizes a randomized algorithm
for constructing a privacy-preserving index. The privacy-preserving index is
strongly resilient to privacy breaches. The privacy-preserving index system
allows content providers to maintain complete control in defining access groups
and ensuring its compliance, and further allows system implementors to retain
20 tunable knobs to balance privacy and efficiency concerns for their particular
domains.